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AUDIT OF MAJOR DEFENSE ACQUISITION PROGRAMS CYCLE TIME

Report No. D-2002-032

December 28, 2001

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Department of Defense

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Acronyms

GPRA	Government Performance and Results Act
MDAP	Major Defense Acquisition Program
SAR	Selected Acquisition Report
USD (AT&L)	Under Secretary of Defense for Acquisition, Technology, and Logistics



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-2885

December 28, 2001

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION,
TECHNOLOGY, AND LOGISTICS

SUBJECT: Audit of Major Defense Acquisition Programs Cycle Time
(Report No. D-2002-032)

We are providing this report for review and comment. The Under Secretary of Defense for Acquisition, Technology, and Logistics did not respond to the draft report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. Therefore, we request comments from the Under Secretary of Defense for Acquisition, Technology, and Logistics on the Recommendation by January 28, 2002.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Mr. Michael E. Simpson at (703) 604-8972 (DSN 664-8972) (msimpson@dodig.osd.mil). See Appendix E for the report distribution. The audit team members are listed inside the back cover.

A handwritten signature in black ink, appearing to read "Thomas F. Gimble", is positioned above the printed name.

Thomas F. Gimble
Acting
Deputy Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. D-2002-032

(Project No. D2002AB-0066)

December 28, 2001

Audit of Major Defense Acquisition Programs Cycle Time

Executive Summary

Introduction. The Government Performance and Results Act (GPRA) of 1993, Public Law 103-62, initiated program performance reform with a series of pilot projects in setting program goals, measuring program performance against those goals, and reporting publicly on progress achieved. This report is one in a series resulting from our audits of GPRA goals, and discusses the DoD GPRA Performance Measure 2.4.2 for FY 2000, Major Defense Acquisition Program Cycle Time (MDAP). DoD established the objective of delivering new MDAPs to the field in 25 percent less time than programs initiated prior to 1992. MDAPs must either be designated by the Under Secretary of Defense for Acquisition, and Technology USD (A&T) as a major defense acquisition program, or MDAPs can be determined by USD (A&T) as a program that requires a total expenditure of \$365 million in FY 2000 constant dollars for research, development, test, and evaluation or more than \$2.190 billion in FY 2000 constant dollars for procurement. The cycle time goal is measured by the average monthly elapsed time, from the start of a program to initial operational capability, for all MDAPs in development during a specific calendar year. DoD reported that it met its FY 2000 goal and reduced the average cycle times by 25 percent, that is, to less than 99 months, from the historical average of 132 months.

Objectives. The overall objective was to evaluate the MDAP cycle time for tracking performance under GPRA as indicated in the FY 2000 Annual Report of the Secretary of Defense. Specifically, we assessed whether the process and factors, used to establish the metric goal of MDAP cycle time, were valid. See Appendix A for a discussion of the audit scope, methodology, and prior coverage.

Results. The database used to calculate MDAP acquisition cycle time for inclusion in the FY 2000 Annual Report of the Secretary of Defense to the President and the Congress, was not accurate or complete. Of the 48 MDAPs reviewed, data for 28 programs was incorrect. We also identified three programs that were not included in the database. As a result of our findings, USD (AT&L) has contracted for the complete verification and reconciliation of any omissions and inconsistencies in the database. As of December 2001, USD (AT&L) estimated that it will complete the verification and reconciliation of the database by February 2002.

Summary of Recommendation. We recommend that the Under Secretary of Defense for Acquisition, Technology, and Logistics establish a quality control process to periodically review the MDAP cycle time database for accurate and complete information.

Management Comments. We provided a draft of this report to The Under Secretary of Defense for Acquisition, Technology, and Logistics for comments. Comments were not received. Therefore, we request the Under Secretary of Defense for Acquisition, Technology, and Logistics provide comments by January 28, 2002.

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Background

The Government Performance and Results Act of 1993 (Public Law 103-62).

The Government Performance and Results Act (GPRA) was established to improve Government-wide program effectiveness, accountability, and, ultimately, public confidence by requiring agencies to identify measurable annual performance goals. In 1998, the cycle time for the Major Defense Acquisition Program (MDAP) was approved as a measurement for tracking performance under GPRA, Goal 2.4, Improve Acquisition. The milestone schedule information from the December 1996 Selected Acquisition Report (SAR) established the historic baseline of 132 months. The programs were separated into two groups: 58 programs that started before 1992 and 48 programs that started after 1992, the year that DoD acquisition reform began.

Acquisition cycle time for an individual program is defined as the period from formal initiation of an acquisition program milestone to the initial operating capability. In 1998, DoD established the goal to deliver new MDAPs to the field in 25 percent less time--less than 99 months--than programs initiated before 1992. The key measure for that goal is the average time elapsed from program start to initial operational capability for all MDAPs in development. DoD computes the monthly cycle time for each MDAP program and combines individual cycle times to calculate the average cycle time for all programs. DoD reported that it met its FY 2000 goal of reducing the average cycle time for all MDAPs by 25 percent.

Objectives

The overall objective was to evaluate the MDAP cycle time for tracking performance under GPRA as indicated in the FY 2000 Annual Report of the Secretary of Defense. Specifically, we assessed whether the process and factors, used to establish the metric goal of MDAP cycle time, were valid. See Appendix A for a discussion of the audit scope, methodology, and prior audit coverage.

Major Defense Acquisition Programs Cycle Time

The database used to calculate MDAP acquisition cycle time for inclusion in the annual report to the President and the Congress, was not complete or accurate. We identified the following inconsistencies that occurred in 28 of 48 programs (some programs had multiple inaccuracies):

- 20 programs had milestone dates that differed from SAR start dates,
- 6 programs had different low-rate initial production dates,
- 5 programs had different initial operational capability dates, and
- 12 programs had different cycle time calculations.

In addition, three programs were not included in the database. Complete and accurate information was lacking because the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD [AT&L]) did not have a process in place to verify information recorded in the database or to reconcile any discrepancies between the database and the SARs. As a result, MDAP cycle time information used in the Annual Report of the Secretary of Defense for FY 2000 and the Annual Report for FY 2001 may not accurately reflect the progress of achieving the MDAP cycle time goal.

Acquisition Performance Goal 2.4

The typical acquisition effort of the 1960s required 7 years for completion. A review of MDAPs, using the 1996 SARs, found that major systems required 11 years (132 months) to progress from program start to initial operational capability. In 1998, the MDAP cycle time was approved as a measurement for tracking performance under GPRA. DoD established the goal of delivering new MDAPs to the field in 25 percent less time (99 months) from the historic average (132 months). USD (AT&L) is responsible for monitoring the cost, schedule, and technical status of major weapon systems. In 1998, USD (AT&L) established a database to record current and historic schedule information for each MDAP. The database contained information used to calculate the average cycle time for all the MDAPs using program start dates and initial operational capability dates. Based on those calculations, USD (AT&L) computed an average cycle time of 96.9 months for 48 MDAPs, which were started after 1992, and were reported in the FY 2000 Annual Report. The 96.9 monthly average cycle time showed that DoD exceeded its established goal by more than 2 months.

Database Analysis

We could not verify whether DoD met GPRA MDAP cycle time goals because the data used to calculate MDAP cycle times were not accurate for all programs. We compared USD (AT&L) cycle time database against the December 31, 1999, and June 30, 2000 SARs. The database contained numerous instances of missing or inaccurate information. Appendix B shows three MDAPs omitted from the database: C-130J Hercules, Maneuver Control System, and Secure Mobile Anti-Jam Reliable Tactical Terminal. Each program was started during or after 1992, had SARs prepared, and should have been included in the database.

Appendix C lists eight programs in the database that used “To Be Determined” as an initial operational capability date. However, cycle times were calculated for four of the eight programs: Airborne Laser, Evolved Expendable Launch Vehicle, MILSTAR, and Space-Based Infrared System Program (High). We were unable to determine cycle times for those programs with no initial operational capability date.

Appendix D shows 20 programs with milestone dates that differed from SAR start dates. For example, the database listed the Cooperative Engagement Capability Program with no date for Milestone I, yet the SAR showed May 1995 for Milestone I. Also, the ATACMS/BAT Program showed a Milestone II date of May 1999, although the SAR showed a Milestone II date of November 2000--a difference of 18 months. Appendix D also shows that six programs had different low-rate initial production dates between the database and the SARs and five programs with initial operational capability dates that differed from the SARs. For example, the Force XXI Battle Command Brigade and Below Program showed an initial operational capability date of April 2002 although the SAR showed November 2001--a difference of 5 months. Additionally, Appendix D shows 12 programs each with a different cycle time calculation between the database and the SARs, such as the Advanced Amphibious Assault Vehicle Program.

Cycle Time Database

USD AT&L established the database to record DoD schedule information for all MDAPs and to determine cycle time for the programs. Information was collected manually from SARs and transferred to the database where it became the basis for determining the MDAP average cycle time, which was reported in the 2000 Annual Report and the draft of the 2001 Annual Report. However, USD (AT&L) did not have a process to review and verify the completeness and accuracy of the database, which resulted in omissions and inaccuracies in the data. An independent review of the information should be performed before it becomes part of another database or report.

Based on information taken from the USD (AT&L) database, DoD reported that it had met its FY 2000 goal of reducing average cycle time by 25 percent. This

information was reported to the President and the Congress in the 2001 Annual Report, Appendix I, Government Performance and Results Act, DoD FY 2000 Performance Report, March 2001. However, because programs were omitted and other discrepancies, the matrixes showing that the goal was reached may not accurately reflect the progress made toward achieving the cycle time goal. The DoD FY 2002 Annual Performance Plan, a part of Appendix I, will be published separately from the DoD FY 2000 Performance Report.

Actions Undertaken by the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics

The USD (AT&L) agreed that data were omitted from the database and that other data were inconsistent with information in the SARs. As a result, a statement of work was issued for a contractor to examine and upgrade the database. The statement of work addressed the following tasks:

- Verify and reconcile Inspector General, DoD, discrepancies in the database for the DoD programs currently in development, and document rules for determining cycle time.
- Verify the accuracy of schedule data for the remaining programs in the database. (There are about 200 completed programs dating back to 1969.)
- Design a data table within the Consolidated Acquisition Reporting System and include data that will highlight any change in cost and schedule.

As of December 2001, USD (AT&L) estimated that it will complete the verification and reconciliation of the database by February 2002.

Summary

We could not verify whether DoD met the GPRA metric MDAP cycle time goal because the database used to calculate the average cycle time omitted programs and contained discrepancies. As a result, the average cycle time goal stated in the FY 2000 Annual Report of the Secretary of Defense may not be accurate. In addition, cycle times, which were calculated for the FY 2001 Annual Report, using information from the same database, may not be accurate. Because USD (AT&L) representatives took action to reconcile the MDAP database, we did not make a recommendation on that issue.

Recommendations

We recommend the Under Secretary of Defense for Acquisition, Technology, and Logistics establish a quality control process to periodically review and verify the completeness and accuracy of the MDAP cycle time database.

Management Comments

The Under Secretary of Defense for Acquisition, Technology, and Logistics did not provide comments to the draft of this report, dated June 29, 2001. Accordingly, we request that the Under Secretary of Defense for Acquisition, Technology, and Logistics provide comments to the final.

Appendix A. Audit Process

Scope

We evaluated DoD reporting against the MDAP cycle time performance goal of GPRA. Specifically, we reviewed Subordinate Performance Goal 2.4, Improve Acquisition, and Performance Measure 2.4.2, MDAP.

Cycle Time. Management control objectives for acquisition program cost, schedule, and performance parameters are embodied in acquisition program baselines.

General Accounting Office High-Risk Area. The General Accounting Office has identified several high-risk areas in the DoD. This report provides coverage of the Defense Weapons System Acquisition high-risk area.

Methodology

Specifically, we reviewed MDAPs having start dates after 1992. We obtained a copy of the MDAP cycle time database identifying 48 programs and their respective cycle times from USD (AT&L). We reviewed the milestone schedules for the 51 MDAPs listed in the annual SARs to determine average cycle times for each of the programs. We recorded each of the MDAPs Milestone I, II, and III dates, low-rate initial production dates, and initial operational capability dates as reported in the SARs. We calculated the length of time elapsed between Milestone I or Milestone II (some MDAPs use Milestone I as a start date and others use Milestone II as a start date) and initial operational capability dates for each of the MDAPs listed in the SARs. Also, we compared the MDAP cycle time that we determined with the results calculated in the USD (AT&L) cycle time database. We reconciled the MDAPs in the USD (AT&L) database with the programs in the SARs.

Audit Type, Dates, and Standards. We performed this program audit from January 2001 through June 2001 in accordance with generally accepted government auditing standards.

Use of Computer-Processed Data. We did not use computer-processed data to perform this audit.

Use of Technical Assistance. We did not rely on technical assistance to perform this audit.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD and contractor locations. Further details are available upon request.

Management Control Program Review. We did not review the management control program for GPRA Performance Measure 2.4.2 MDAP Cycle Time. We limited our review to the controls over the reliability of data taken from the Selected Acquisition Reports and recorded in the USD (AT&L) MDAP cycle time database. We found that these controls were not adequate.

We identified a material control weakness as defined by DoD Instruction 5010.40. Controls were not adequate to ensure that data taken from the Selected Acquisition Reports and recorded in the USD (AT&L) MDAP cycle time database were correct and complete. Specifically, a quality control process was not established to periodically review the MDAP cycle time database for accurate and complete information. The recommendation, if implemented, will ensure adherence to regulatory requirements.

Prior Coverage

General Accounting Office

The General Accounting Office has conducted multiple reviews related to GPRA. Unrestricted General Accounting Office reports can be accessed over the Internet at <http://www.gao.gov>.

Inspector General, DoD

Inspector General, DoD, Report No. D-2001-128, "Government Performance and Results Act Goals: Surge Sealift and Forces Supported by Land- and Sea-Based Pre-Positioning," May 23, 2001

Inspector General, DoD, Report No. D-2001-080, "Government Performance and Results Act Goals: Disposal of Excess Real Property," March 15, 2001

Inspector General, DoD, Report No. D-2001-045, "Government Performance and Results Act Goals: Tank Miles," February 7, 2001

Inspector General, DoD, Report No. D-2001-033, "Government Performance and Results Act: Unfunded Depot Maintenance Requirements," January 12, 2001

Inspector General, DoD, Report No. D-2001-021, "Government Performance and Results Act Reporting on Defense Working Capital Funds Net Operating Results," January 10, 2001

Inspector General, DoD, Report No. D-2000-136, "Reporting of Performance Measures in the DoD Agency-Wide Financial Statements," May 31, 2000

Appendix B. Programs Omitted From Under Secretary of Defense for Acquisition, Technology, and Logistics Database

<u>Program Name</u>	<u>Date</u>	<u>Service</u>	<u>Cycle Time¹</u> (in months)
C130J Hercules	1996	Air Force	33
Maneuver Control System	1992	Army	64
Secure Mobile Anti-Jam Reliable Tactical-Terminal	1992	Army	107

¹ Program start (MS I, MS II or MS III) to program initial operational capability date.

Appendix C. Programs with To Be Determined as Initial Operational Capability Date

<u>Program Name</u>	<u>Date</u>	<u>Service</u>	<u>Cycle Time¹</u> (in months)
Airborne Laser	1996	Air Force	130 ²
Evolved Expendable Launch Vehicle	1996	Air Force	71 ²
MILSTAR	1992	Air Force	120 ²
Space-Based Infrared System (High)	1996	Air Force	113 ²
Interim Armored Vehicle	2000	Army	* ³
Navy Theater Wide Ballistic Missile Defense	1999	DoD	* ³
Space-Based Infrared System (Low)	1999	Air Force	* ³
Joint Strike Fighter	1996	DoD	* ³

¹ Program start (MS I, MS II or MS III) to program initial operational capability date.

² Programs had computed cycle time despite having "To Be Determined" as an initial operational capability date.

³ Programs did not compute cycle time because "To Be Determined" was an initial operational capability date.

Appendix D. Summary of Differences Between the Under Secretary of Defense for Acquisition, Technology, and Logistics Database and the Selected Acquisition Report

<u>Program Name</u>	<u>Date</u>	<u>Service</u>	<u>Milestone I</u>	<u>Milestone II</u>	<u>Milestone III</u>	<u>LRIP⁵</u>	<u>IOC⁶</u>	<u>Cycle Time</u>
Advanced Amphibious Assault Vehicle	1995	Navy		X	X		X	X
Airborne Laser	1996	Air Force						X
Advanced Extremely High Frequency	1999	Air Force			X			
Air-to-Air Missile Upgrade	1994	Navy			X	X		
ATACMS/BAT ⁷	1993	Army		X		X		
ATACMS/APAM ⁸	1994	Army			X			
B-1 CMUP/Computer ⁹	1993	Air Force			X			
B-1 CMUP/DSUP ¹⁰	1997	Air Force	X				X	X
Bradley Fighting Vehicle System Upgrade	1994	Army						X
Cargo Helicopter	1998	Army		X				

⁵ Low Rate Initial Production.

⁶ Initial Operational Capability.

⁷ Army Tactical Missile System/Brilliant Anti-Armor Submunition.

⁸ Army Tactical Missile System/Anti-Personnel Anti-Material.

⁹ B-1 LANCER Penetrating Bomber Conventional Mission Upgrade Program.

¹⁰ B-1 LANCER Penetrating Bomber Conventional Mission Upgrade Program/Defensive Systems Upgrade Program.

<u>Program Name</u>	<u>Date</u>	<u>Service</u>	<u>Milestone I</u>	<u>Milestone II</u>	<u>Milestone III</u>	<u>LRIP</u>	<u>IOC</u>	<u>Cycle Time</u>
Cooperative Engagement Capability	1995	Navy	X					
CH-60S Utility Helicopter	1998	Navy		X				
CRUSADER	1994	Army			X			
Evolved Expendable Launch Vehicle	1996	Air Force			X			X
Force XXI Battle Command Brigade and Below Program	1997	Army					X	X
Interim Armored Vehicle	2000	Army		X				
Joint Strike Fighter	1996	DoD	X					
MILSTAR	1992	Air Force						X
MINUTEMAN III Guidance Replacement Program	1993	Air Force	X					
National Polar-Orbiting Operational Environmental Satellite System	1997	DoD			X			
Patriot Advanced Capability	1994	DoD						X
Space-Based Infrared System (High)	1996	Air Force					X	X
Space-Based Infrared System (Low)	1999	Air Force			X	X		
Strategic Sealift	1992	Navy	X					X
Tactical Tomahawk	1998	Navy				X		

<u>Program Name</u>	<u>Date</u>	<u>Service</u>	<u>Milestone I</u>	<u>Milestone II</u>	<u>Milestone III</u>	<u>LRIP</u>	<u>IOC</u>	<u>Cycle Time</u>
Theater High Altitude Area Defense	1992	DoD		X		X		
Next Generation Nuclear Aircraft Carrier	2000	Navy	X	X	X		X	X
Navy Theater Wide Ballistic Missile Defense	1999	DoD				X		X
Total			6	7	10	6	5	12

Appendix E. Report Distribution

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House Subcommittee on Technology and Procurement Policy, Committee on Government Reform

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The Acquisition Management Directorate, Office of the Assistant Inspector General for Auditing, DoD, prepared this report. Personnel of the Office of the Inspector General, DoD, who contributed to the report are listed below.

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